NAME OF THE WORK: PACKAGE NO.03
(CONSISTS OF 5 WORKS)

Second and Part Bill

Quality Control Reports

BOOK NO – 02

VOLUME-I WARD-07

QC ABSTRACT

NAME OF WORK: Package No-03 (Consists of 5 works)

SL NO	Item Of Work	Name of Test	Frequency of Test/Quantity	Executed Quantity	Number of Tests Required	Number of Tests Conducted
		Materials				
1	Cement	Fineness by dry sieving	One Test		1	1
		Finess by Air permeablity method	One Test		1	1
		Density	One Test		1	1
		Standard Consistency	One Test		1	1
		Initial Setting time	One Test		1	1
		Final Setting time	One Test		1	1
		Soundness (Le Chatelier's Method)	One Test		1	1
		Compressive Strength	One Test		1	1
2	Coarse aggregate(40 mm down size)	SIEVE ANALYSIS	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Specific Gravity	One Test		1	1
		Bulk Density(Loose)	One Test		1	1
		Bulk Density(Compacted)	One Test		1	1
		Water Absorption	One Test		1	1
3	Coarse aggregate(20 mm down size)	SIEVE ANALYSIS	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Specific Gravity	One Test		1	1
		Bulk Density(Loose)	One Test		1	1
		Bulk Density(Compacted)	One Test		1	1
		Water Absorption	One Test		1	1
		Aggregate crushing Value	One Test		1	1
		Aggregate Impact Value	One Test		1	1
4	Fine aggregate	SIEVE ANALYSIS	One Test		1	1
		Water Absorption	One Test		1	1
		Specific Gravity	One Test		1	1
		Material finer than 75 micron	One Test		1	1
5	Steel	Bend test	One Test		1	1
		Tensile Test	One Test		1	1
		Yield Test	One Test		1	1
		ReBend test	One Test		1	1
6	Precast (100mm)	Core Compressive Strength	One Test		1	1
		Corrected Cylinder Compressive Strength	One Test		1	1
		Equivalent Cube Compressive Strength	One Test		1	1
7	Precast (230mm)	Core Compressive Strength	One Test		1	1
		Corrected Cylinder Compressive Strength	One Test		1	1
		Equivalent Cube Compressive Strength	One Test		1	1
8	RCC(M20)	Compressive Strength(7days and 28days)	8 sets	167.45	16	16

9	WMM	Sieve Analysis	One Test		1	1
		Impact Value	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
10	DBM	SIEVE ANALYSIS	One Test		1	1
		STRIPPING VALUE	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		IMPACT VALUE	One Test		1	1
		Specific gravity	One Test		1	1
		Water Absorption	One Test		1	1
		Marshal Stability	One Test		1	1
		Marshal flow	One Test		1	1
		Percent air Voids	One Test		1	1
		Percent Voids in mineral Aggregate	One Test		1	1
		Percent Voids filled with Bitumen	One Test		1	1
		Density	One Test		1	1
		Gradation	One Test		1	1
11	BC	SIEVE ANALYSIS	One Test		1	1
		STRIPPING VALUE	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		IMPACT VALUE	One Test		1	1
		Specific gravity	One Test		1	1
		Water Absorption	One Test		1	1
		Marshal Stability	One Test		1	1
		Marshal flow	One Test		1	1
		Percent air Voids	One Test		1	1
		Percent Voids in mineral	One Test		1	1
		Percent Voids filled with Bitumen	One Test		1	1
		Density	One Test		1	1
		Gradation	One Test		1	1
12	BITUMEN	Ductility	One Test		1	1
		Softening Point	One Test		1	1
		Penetration	One Test		1	1
		Flash Point	One Test		1	1
		Fire Point	One Test		1	1
13	TACK COAT	Rate of spread	One Test		1	1

Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID : **CP-2022-11-28-01** **Date: 30-11-22**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 28-11-22

Sample Type : JSW 53grade

Reference to BIS codes : IS 269:2015 Ordinary Portland cement Specification ,
IS 4031 (Part 4,5):1988
IS 4031 Part 1 (RA 2021) DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4
IS 4031 Part 2, (RA 2018) Determination of Fineness by Blaine Air Permeability
IS 4031 Part 3, (RA 2019) Determination of Soundness, Clause 5, Clause 6
IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste, Clause 5
IS 4031 Part 5, (RA 2019) Determination of Initial & Final Setting Time, Clause 5
IS 4031 Part 11, (RA 2019)DETERMINATION OF DENSITY , Clause 6

Date of test : 28-11-22

Environmental Conditions during test : Temperature: 26°C
Humidity: 72%

Sl.No.	Physical properties	Results	Requirement as per IS 269:2015
1	Fineness by dry sieving (%)	1.75	–
2	Finess by Air permeablity method (m^2/kg,Min)	281.4	225m^2/kg, Min
3	Density (gm/cc)	3.14	–
4	Standard Consistency (%)	29.5%	Not specified
5	Initial Setting time	175 minutes	Not less than 30 minutes
6	Final Setting time	280 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

* The results obtained are satisfactory as per standard requirements.

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Page 1/1
****End of Report****

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2022-11-28-01** **Date: 26-12-22**
Project Name	:	Package No-03 (Consists of 5 works)
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097
Customer's Reference	:	BBMP/EE/BTP/WO/78/2022-23
Date of Receipt	:	28-11-22
Sample Type	:	JSW 53grade
Reference to BIS codes	:	IS 269:2015 Ordinary Portland cement Specification , IS 4031 (Part 4,5):1988 , IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, (RA 2019) Determination of Compressive Strength, Clause 6
Date of test	:	28-11-22
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Compressive Strength			
Sl.No.	**Physical properties**	**Results**	**Requirement as per IS 269:2015**
1	3 Days	29.0N/mm^2	Not less than 27 N/mm^2
2	7 Days	38.5N/mm^2	Not less than 37 N/mm^2
3	28 Days	57.5N/mm^2	Not less than 53 N/mm^2

* The results obtained are satisfactory as per standard requirements.

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Page 1/1
****End of Report****

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

Format No: CP/TF/01

TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2022-11-28-01**	**Date: 01-12-22**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer's Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	28-11-22	
Sample Type	:	40mm down size coarse aggregate	
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2021 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties	
Date of test	:	28-11-22	

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	242	242	1.6	98.4	90-100
3	20 mm	5437	5679	37.9	62.1	30-70
4	10 mm	4339	10018	66.8	33.2	10-35
5	4.75 mm	4649	14667	97.8	2.2	0-5
6	Pan	333	15000	100.0	0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2022-11-28-01** **Date: 01-12-22**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	10.8	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	11.6	
3	Specific Gravity	2.62	–
4	Bulk Density(Loose) (Kg/l)	1.47	–
5	Bulk Density(Compacted) (Kg/l)	1.51	–
6	Water Absorption(%)	0.22	–

* The results obtained are satisfactory as per standard requirements.

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R KARTHIK RECHAN
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****End of Report****

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Format No: CP/TF/01

TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2022-11-28-01**	**Date: 30-11-22**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	28-11-22	
Sample Type/ Size	:	20mm down size coarse aggregate	
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2021 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties	
Date of test	:	28-11-22	

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	240	240	4.8	95.2	90-100
3	10 mm	2567	2807	56.1	43.9	25-55
4	4.75 mm	2030	4837	96.7	3.3	0-10
5	Pan	163	5000	100	0	–

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Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2022-11-28-01** **Date: 30-11-22**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	9.8	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	10.3	
3	Specific Gravity	2.65	–
4	Bulk Density(Loose) (Kg/l)	1.5	–
5	Bulk Density(Compacted) (Kg/l)	1.52	–
6	Water Absorption(%)	0.23	–
7	Aggregate crushing Value(%)	22.7	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	24.6	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

* The results obtained are satisfactory as per standard requirements.

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R KARTHIK RECHAN
Authorized Signature
Quality Manager

End of Report

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2022-11-28-01** **Date: 30-11-22**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 28-11-22

Sample Type : Fine Aggregate

Reference to BIS codes : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1, 3) RA2012
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption

Date of test : 28-11-22

Total weight taken : 1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	78	78	7.8	92.2	90-100	90-100	90-100	95-100
3	2.36 mm	65	143	14.3	85.7	60-95	75-100	85-100	95-100
4	1.18 mm	244	387	38.7	61.3	30-70	55-90	75-100	90-100
5	600 micron	215	602	60.2	39.8	15-34	35-59	60-79	80-100
6	300 micron	178	780	78.0	22.0	5-20	8-30	12-40	15-50
7	150 micron	141	921	92.1	7.9	0-10	0-10	0-10	0-15
8	Pan	79	1000	100.0	0.0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore.

TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2022-11-28-01** **Date: 30-11-22**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	1.5	–
2	Specific Gravity	2.59	–
3	Material finer than 75 micron(%)	6.9	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

* The results obtained are satisfactory as per standard requirements.

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Authorized Signatory
Quality Manager

****End of Report****

Assistant Executive Engineer
Kengeri Sub Division
BBMP, Bangalore

Format No: CP/TF/01

TEST RESULTS OF STEEL

Lab ID : **CP-2022-11-28-01** **Date: 29-11-22**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 28-11-22

Sample Type : A-one Gold

Reference to BIS codes : IS 1786-2008, IS:1608-2005(RA 2011), IS 1599-2019.

Date of test: : 28-11-22

Sl.No	Identification of sample	Grade of the sample	Diameter of the steel bar	Weight of the sample	Yield stress	Tensile strength	Elongation	Bend test	Rebend test
			(mm)	(kg/m)	(N/mm2)	(N/mm2)	(%)		
1	A-one Gold	Fe550	8	0.391	562	652	20.0%	Satisfactory	Satisfactory
2	A-one Gold	Fe550	10	0.616	568	672	20.0%	Satisfactory	Satisfactory
3	A-one Gold	Fe550	12	0.888	574	668	20.0%	Satisfactory	Satisfactory

* The results obtained are satisfactory as per standard requirements.

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

Spectro Chemical Analysis, Physical, Non Destructive All Type of Metal Testing

Lab ID : **CP-2022-11-28-01** **Date: 29-11-22**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 28-11-22

Sample Type / Grade : A-one Gold

Date of test : 28-11-22

CHEMICAL ANALYSIS

Sl. No.	Chemical Contents	8mm	10mm	12mm	Max. Limits as per IS:1786-2008, Gr. Fe 550
1	Carbon (C) %	0.142	0.133	0.146	0.300 Max
2	Phosphor (P) %	0.035	0.041	0.042	0.050 Max
3	Sulphur (S) %	0.037	0.046	0.040	0.055 Max
4	Sulphur & Phosphorus %	0.082	0.060	0.078	0.100 Max

Note : The above material confirms to ASI S S 304 with respect to elements analysed

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Quality Manager

****End of Report****

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-05-01** **Date: 10/12/2022**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 05-12-22

Customer ID : Drain Bottom Raft Concrete - Veeranna palya 6th A Cross

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 10/12/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft Concrete - Veeranna palya 6th A Cross	M20	03/12/2022	10/12/2022	151.59 X 151.43 X 151.43	22955	8.649	429.3	18.7	18.4
2	Drain Bottom Raft Concrete - Veeranna palya 6th A Cross	M20	03/12/2022	10/12/2022	149.85 X 150.26 X 149.28	22517	8.768	408.3	18.1	
3	Drain Bottom Raft Concrete - Veeranna palya 6th A Cross	M20	03/12/2022	10/12/2022	149.34 X 151.74 X 151.64	22661	8.445	415.3	18.3	

* The results obtained are satisfactory as per standard requirements.

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Quality Manager

****End of Report****

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore.

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-05-01** **Date: 31/12/2022**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 05-12-22

Customer ID : Drain Bottom Raft Concrete - Veeranna palya 6th A Cross

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 31/12/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft Concrete - Veeranna palya 6th A Cross	M20	03/12/2022	31/12/2022	149.16 X 149.99 X 149.42	22371	8.257	518.4	23.2	22.9
2	Drain Bottom Raft Concrete - Veeranna palya 6th A Cross	M20	03/12/2022	31/12/2022	151.08 X 150.72 X 150.64	22771	8.813	502.4	22.1	
3	Drain Bottom Raft Concrete - Veeranna palya 6th A Cross	M20	03/12/2022	31/12/2022	149.31 X 149.46 X 149.36	22316	8.326	523.2	23.4	

* The results obtained are satisfactory as per standard requirements.

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R KARTHIK RECHAN
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****End of Report****

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | ENVIRONMENTAL
WATER TESTING | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES

Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-05-01** **Date: 10/12/2022**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 05-12-22

Customer ID : Drain Bottom Raft Concrete - 6th B Cross Road, Veeranna palya

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 10/12/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft Concrete - 6th B Cross Road, Veeranna palya	M20	03/12/2022	10/12/2022	151.44 X 150.27 X 150.90	22757	8.496	410.2	18.0	18.3
2	Drain Bottom Raft Concrete - 6th B Cross Road, Veeranna palya	M20	03/12/2022	10/12/2022	151.98 X 151.83 X 150.68	23076	8.673	427.3	18.5	
3	Drain Bottom Raft Concrete - 6th B Cross Road, Veeranna palya	M20	03/12/2022	10/12/2022	151.28 X 151.62 X 149.69	22937	8.806	424.2	18.5	

* The results obtained are satisfactory as per standard requirements.

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Authorized Signatory
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****End of Report****

Assistant Executive Engineer
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BBMP, Bangalore

Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-05-01** **Date: 31/12/2022**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 05-12-22

Customer ID : Drain Bottom Raft Concrete - 6th B Cross Road, Veeranna palya

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 31/12/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft Concrete - 6th B Cross Road, Veeranna palya	M20	03/12/2022	31/12/2022	151.24 X 149.82 X 149.89	22658	8.390	532.2	23.5	23.2
2	Drain Bottom Raft Concrete - 6th B Cross Road, Veeranna palya	M20	03/12/2022	31/12/2022	149.76 X 151.16 X 150.78	22638	8.189	505.6	22.3	
3	Drain Bottom Raft Concrete - 6th B Cross Road, Veeranna palya	M20	03/12/2022	31/12/2022	150.95 X 151.53 X 149.77	22873	8.891	542.1	23.7	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

Assistant Executive Engineer
Yelahanka II Sub Division
BBMP, Bangalore

Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-06-01** **Date: 12/12/2022**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 06-12-22

Customer ID : Drain Side Wall Concrete - Veeranna palya 6th B Cross Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 12/12/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall Concrete - Veeranna palya 6th B Cross Road	M20	05/12/2022	12/12/2022	149.44 X 151.29 X 149.83	22609	8.826	422.0	18.7	18.5
2	Drain Side Wall Concrete - Veeranna palya 6th B Cross Road	M20	05/12/2022	12/12/2022	151.91 X 151.43 X 150.17	23004	8.237	421.4	18.3	
3	Drain Side Wall Concrete - Veeranna palya 6th B Cross Road	M20	05/12/2022	12/12/2022	150.97 X 151.56 X 149.18	22881	8.700	421.7	18.4	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-06-01** **Date: 02/01/2023**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 06-12-22

Customer ID : Drain Side Wall Concrete - Veeranna palya 6th B Cross Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 02/01/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall Concrete - Veeranna palya 6th B Cross Road	M20	05/12/2022	02/01/2023	151.49 X 151.57 X 151.24	22962	8.668	529.5	23.1	23.0
2	Drain Side Wall Concrete - Veeranna palya 6th B Cross Road	M20	05/12/2022	02/01/2023	149.29 X 151.24 X 150.56	22579	8.435	510.2	22.6	
3	Drain Side Wall Concrete - Veeranna palya 6th B Cross Road	M20	05/12/2022	02/01/2023	150.12 X 151.31 X 151.37	22716	8.999	531.7	23.4	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

Assistant Executive Engineer
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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-07-01** **Date: 13/12/2022**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 07-12-22

Customer ID : Drain Side Wall Concrete - Veeranna palya 6th A Cross Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 13/12/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall Concrete - Veeranna palya 6th A Cross Road	M20	06/12/2022	13/12/2022	150.18 X 150.59 X 149.27	22615	8.979	418.9	18.5	18.5
2	Drain Side Wall Concrete - Veeranna palya 6th A Cross Road	M20	06/12/2022	13/12/2022	151.56 X 149.13 X 151.37	22603	8.810	408.6	18.1	
3	Drain Side Wall Concrete - Veeranna palya 6th A Cross Road	M20	06/12/2022	13/12/2022	150.31 X 151.26 X 151.73	22736	8.625	431.0	19.0	

* The results obtained are satisfactory as per standard requirements.

FOR CIVIL Pro.

CIVIL Pro Sig..... Date..... BANGALORE

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

Assistant Executive Engineer
Yeshwanthpur Sub Division
BBMP, Bangalore

Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-07-01** **Date: 03/01/2023**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 07-12-22

Customer ID : Drain Side Wall Concrete - Veeranna palya 6th A Cross Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 03/01/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall Concrete - Veeranna palya 6th A Cross Road	M20	06/12/2022	03/01/2023	150.08 X 151.11 X 149.24	22679	8.553	530.2	23.4	23.4
2	Drain Side Wall Concrete - Veeranna palya 6th A Cross Road	M20	06/12/2022	03/01/2023	150.47 X 149.98 X 150.16	22566	8.106	512.9	22.7	
3	Drain Side Wall Concrete - Veeranna palya 6th A Cross Road	M20	06/12/2022	03/01/2023	151.47 X 151.25 X 149.25	22910	8.563	549.3	24.0	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-12-01** **Date: 17/12/2022**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 12-12-22

Customer ID : Drain Bottom raft Concrete - Veeranna palya 6th cross road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 17/12/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom raft Concrete - Veeranna palya 6th cross road	M20	10/12/2022	17/12/2022	151.62 X 149.84 X 149.28	22718	8.231	412.0	18.1	18.2
2	Drain Bottom raft Concrete - Veeranna palya 6th cross road	M20	10/12/2022	17/12/2022	149.57 X 149.17 X 150.41	22311	8.366	408.7	18.3	
3	Drain Bottom raft Concrete - Veeranna palya 6th cross road	M20	10/12/2022	17/12/2022	150.05 X 151.58 X 150.31	22744	8.407	415.6	18.3	

* The results obtained are satisfactory as per standard requirements.

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CIVIL Pro Sig..... Date..... BANGALORE

R KARTHIK RECHAN
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****End of Report****

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | ENVIRONMENTAL
WATER TESTING | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-12-01** **Date: 07/01/2023**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 12-12-22

Customer ID : Drain Bottom raft Concrete - Veeranna palya 6th cross road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 07/01/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom raft Concrete - Veeranna palya 6th cross road	M20	10/12/2022	07/01/2023	149.35 X 150.70 X 151.84	22508	8.819	533.9	23.7	23.0
2	Drain Bottom raft Concrete - Veeranna palya 6th cross road	M20	10/12/2022	07/01/2023	150.26 X 151.27 X 149.56	22730	8.102	505.1	22.2	
3	Drain Bottom raft Concrete - Veeranna palya 6th cross road	M20	10/12/2022	07/01/2023	149.88 X 150.26 X 149.49	22522	8.532	520.1	23.1	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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R KARTHIK RECHAN
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****End of Report****

Assistant Executive Engineer
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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-13-01** **Date: 19/12/2022**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 13-12-22

Customer ID : Culvert Bottom Raft Concrete - Muniswamy Gowda Layout 2nd cross road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 19/12/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Culvert Bottom Raft Concrete - Muniswamy Gowda Layout 2nd cross road	M20	12/12/2022	19/12/2022	151.85 X 150.08 X 149.72	22789	8.729	414.9	18.2	18.5
2	Culvert Bottom Raft Concrete - Muniswamy Gowda Layout 2nd cross road	M20	12/12/2022	19/12/2022	151.54 X 151.35 X 150.83	22936	8.686	426.5	18.6	
3	Culvert Bottom Raft Concrete - Muniswamy Gowda Layout 2nd cross road	M20	12/12/2022	19/12/2022	149.38 X 149.24 X 149.72	22294	8.793	415.8	18.7	

* The results obtained are satisfactory as per standard requirements.

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

CIVIL Pro Sig..... Date..... BANGALORE

Page 1/1
****End of Report****

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-13-01** **Date: 09/01/2023**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 13-12-22

Customer ID : Culvert Bottom Raft Concrete - Muniswamy Gowda Layout 2nd cross road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 09/01/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Culvert Bottom Raft Concrete - Muniswamy Gowda Layout 2nd cross road	M20	12/12/2022	09/01/2023	150.72 X 149.38 X 149.46	22515	8.966	533.7	23.7	23.3
2	Culvert Bottom Raft Concrete - Muniswamy Gowda Layout 2nd cross road	M20	12/12/2022	09/01/2023	149.24 X 150.41 X 149.62	22448	8.604	504.8	22.5	
3	Culvert Bottom Raft Concrete - Muniswamy Gowda Layout 2nd cross road	M20	12/12/2022	09/01/2023	149.09 X 151.87 X 149.85	22642	8.983	537.8	23.8	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-15-01** **Date: 21/12/2022**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 15-12-22

Customer ID : Culvert Side Wall Concrete- Muniswamy Gowda Layout 2nd cross road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 21/12/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen	Cross sectional area	Weight of the sample	Failure Load	Compressive strength	Average Compressive Strength
					(mm)	(Sq.mm)	(kg)	(KN)	(N/mm^2)	(N/mm^2)
1	Culvert Side Wall Concrete- Muniswamy Gowda Layout 2nd cross road	M20	14/12/2022	21/12/2022	150.02 X 150.34 X 151.85	22554	8.741	411.0	18.2	18.1
2	Culvert Side Wall Concrete- Muniswamy Gowda Layout 2nd cross road	M20	14/12/2022	21/12/2022	149.91 X 149.31 X 150.35	22383	8.974	405.2	18.1	
3	Culvert Side Wall Concrete- Muniswamy Gowda Layout 2nd cross road	M20	14/12/2022	21/12/2022	149.52 X 151.34 X 151.43	22629	8.479	408.5	18.1	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-15-01** **Date: 11/01/2023**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 15-12-22

Customer ID : Culvert Side Wall Concrete- Muniswamy Gowda Layout 2nd cross road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 11/01/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Culvert Side Wall Concrete- Muniswamy Gowda Layout 2nd cross road	M20	14/12/2022	11/01/2023	149.87 X 151.07 X 149.26	22640	8.228	533.8	23.6	23.2
2	Culvert Side Wall Concrete- Muniswamy Gowda Layout 2nd cross road	M20	14/12/2022	11/01/2023	150.53 X 151.15 X 150.78	22753	8.746	503.2	22.1	
3	Culvert Side Wall Concrete- Muniswamy Gowda Layout 2nd cross road	M20	14/12/2022	11/01/2023	149.61 X 151.13 X 151.76	22611	8.961	541.8	24.0	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-15-01** **Date: 21/12/2022**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 15-12-22

Customer ID : Drain Side Wall Concrete - Veeranna palya 6th cross road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 21/12/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall Concrete - Veeranna palya 6th cross road	M20	14/12/2022	21/12/2022	149.48 X 151.72 X 150.62	22678	8.143	409.5	18.1	18.4
2	Drain Side Wall Concrete - Veeranna palya 6th cross road	M20	14/12/2022	21/12/2022	149.82 X 149.79 X 150.81	22442	8.727	420.3	18.7	
3	Drain Side Wall Concrete - Veeranna palya 6th cross road	M20	14/12/2022	21/12/2022	150.93 X 149.60 X 149.47	22579	8.122	417.6	18.5	

* The results obtained are satisfactory as per standard requirements.

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Page 1/1
****End of Report****

Assistant Executive Engineer
Rajagopalli Sub Division
BBMP, Bangalore

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-15-01** **Date: 11/01/2023**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 15-12-22

Customer ID : Drain Side Wall Concrete - Veeranna palya 6th cross road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 11/01/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall Concrete - Veeranna palya 6th cross road	M20	14/12/2022	11/01/2023	151.92 X 150.36 X 150.85	22842	8.262	547.1	24.0	23.5
2	Drain Side Wall Concrete - Veeranna palya 6th cross road	M20	14/12/2022	11/01/2023	149.77 X 149.53 X 151.27	22394	8.789	510.7	22.8	
3	Drain Side Wall Concrete - Veeranna palya 6th cross road	M20	14/12/2022	11/01/2023	149.15 X 150.91 X 149.37	22509	8.922	535.1	23.8	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

Format No: CP/TF/01

TEST REPORT ON PHYSICAL REQUIREMENTS OF SOLID CONCRETE BLOCKS

Lab ID	:	**CP-2022-12-16-01** **Date: 20-12-22**
Project Name	:	Package No-03 (Consists of 5 works)
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097
Customer's Reference	:	BBMP/EE/BTP/WO/78/2022-23
Date of Receipt	:	16-12-22
Sample Type/Size	:	Solid concrete blocks size (400X150X200)mm
Reference to BIS codes	:	IS : 2185 (Part 1) : 2005(RA 2020) Concrete Masonry Specification Part 1:Hollow and Solid Concrete Blocks (Dimensions -Annex-B, Clause 9.2 and 10 , Block density Annex -C Clause 9.3 and10, Compressive strength Annex -D Clause 9.4 and 10, Water absorption Annex -E Clause 9.5 and 10)
Date of test	:	16-12-22

BLOCK DENSITY:

Sl. No.	Measurement of overall Dimensions of Individual Blocks			Overall Volume of the Block in Cubic Centimetres	Weight of Oven Dried Block in Kilograms to the nearest 10 Gram	Block Density in Kg/cum*10^6	Avg.Block Density in (Kg/cum)	As per IS 2185(Part 1) :2005 (RA 2010)
	Length	Breadth	Height					
	mm	mm	mm	(Cm^3)	Kg	Kg/m^3	Kg/m^3	
1	403	153	200	12332	23.264	1886.5	1904.5	Not less than 1800Kg/m^3
2	402	150	200	12060	22.582	1872.5		
3	401	150	203	12210	23.864	1954.4		

WATER ABSORPTION:

Sl. No.	Wet weight after water absorption	Dry weight (Oven dry)	Water Absorption	Avg.Water Absorption	As per IS 2185(Part 1):2005 (RA 2010)
	kg	kg	%	%	
1	33.91	32.25	4.89	4.25	Shall not be more than 10% by mass
2	33.57	32.14	4.28		
3	33.44	32.24	3.59		

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Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

Lab ID : **CP-2022-12-16-01** **Date: 20-12-22**

DIMENSION ANALYSIS

Sl.no	Length mm	Breadth mm	Height mm	Requirement as per IS 2185(Part 1):2005
1	400	153	199	Length : ± 5mm Breadth : ± 3mm Height : ± 3mm
2	400	151	199	
3	402	151	199	
4	401	150	200	
5	404	149	200	
6	402	150	203	
7	403	151	199	
8	403	151	201	
9	402	150	201	
10	401	150	202	
11	402	150	203	
12	399	152	199	
13	402	151	200	
14	403	149	200	
15	399	150	201	
16	402	152	201	
17	402	152	203	
18	403	152	202	
19	401	150	200	
20	399	150	202	
Average of 20	**401**	**151**	**201**	

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Kodigehalli Sub Division
BBMP, Bangalore

Lab ID : **CP-2022-12-16-01** **Date: 20-12-22**

COMPRESSIVE STRENGTH:

Sl. No.	Size of solid block		Area	Failure Load	Compressive strength	Average Compressive strength
	Length	Breadth				
	mm	mm	(mm^2)	(KN)	N/mm^2	(N/mm^2)
1	400	150	60071	260.0	4.3	4.2
2	403	152	61453	256.0	4.2	
3	402	153	61428	260.5	4.2	
4	400	150	59943	257.4	4.3	
5	400	149	59675	253.0	4.2	
6	404	150	60519	257.6	4.3	
7	402	151	60622	255.4	4.2	
8	403	153	61538	259.6	4.2	

As per IS Requirements (Table 2, Clause 5.1, 5.2 and 9.4)

Compressive strength		
Grade	Minimum average	Minimum Individual units.
C (5.0)	5.00 N/mm^2	4.00 N/mm^2
C (4.0)	4.00 N/mm^2	3.20 N/mm^2

* The Results Obtained are Satisfactory as per Standard Requirements

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Quality Manager

****End of Report****

Assistant Executive Engineer
Kodigehalli Sub Division
BWSSB, Bangalore

Format No: CP/TF/01

TEST REPORT OF PRECAST COVER SLAB

Lab ID : **CP-2022-12-16-01** **Date: 20-12-22**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 16-12-22

Sample Type /Size : Precast Cover Slab - 100mm Thick

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete

Date of test : 16/12/2022

Grade of Slab : M20

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	(kg)	(Sq.mm)	(KN)	(N/mm^2)	(N/mm^2)	(N/mm^2)
1	Cover Slab-1	77.42	100.48	1.116	4707	99.7	21.2	19.7	24.6
2	Cover Slab-2	77.63	100.52	1.122	4732	105.3	22.3	20.7	25.9
3	Cover Slab-3	77.51	100.51	1.118	4718	101.5	21.5	20.0	25.0

* The results obtained are satisfactory as per standard requirements.

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Format No: CP/TF/01

TEST REPORT OF PRECAST COVER SLAB

Lab ID	:	**CP-2022-12-16-01** **Date: 20-12-22**
Project Name	:	Package No-03 (Consists of 5 works)
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097
Customer's Reference	:	BBMP/EE/BTP/WO/78/2022-23
Date of Receipt	:	16-12-22
Sample Type /Size	:	Precast Cover Slab - 230mm Thick
Reference to BIS codes	:	IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete
Date of test	:	16/12/2022
Grade of Slab	:	M20

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	(kg)	(Sq.mm)	(KN)	(N/mm^2)	(N/mm^2)	(N/mm^2)
1	Cover Slab-1	77.36	230.15	2.115	4699	100.6	21.4	19.9	24.9
2	Cover Slab-2	77.55	230.45	2.131	4722	105.3	22.3	20.7	25.9
3	Cover Slab-3	77.42	230.68	2.110	4707	99.0	21.0	19.6	24.4

The results obtained are satisfactory as per standard requirements.

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TEST RESULTS OF GRADATION FOR WMM

Lab ID : **CP-RW-2023-01-25-01** **Date: 27-01-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 25-01-23

Type of Mix : WMM (Wet Mix Macadam)

Source of Sample : Talacauvery Layout

Date of test : 25-01-23

Oven Dry Weight : 11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	225	225	2.0	98.0	95-100
22.4	2585	2810	25.5	74.5	60-80
11.2	2245	5055	46.0	54.0	40-60
4.75	2189	7244	65.9	34.1	25-40
2.36	1525	8769	79.7	20.3	15-30
0.6	1225	9994	90.9	9.1	8-22
0.075	638	10632	96.7	3.3	0-5

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID	:	**CP-RW-2023-01-25-01**	**Date: 27-01-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	25-01-23	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Source of Sample	:	Talacauvery Layout	
Date of test	:	25-01-23	

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	298.5	298.5
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	78.5	74.1
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	219.4	223.9
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.6	0.5
5	Aggregate impact value	(B/A)*100	26.3	24.8
6	Aggregate impact value (Mean of two tests)	Pecentage	25.6	

* The results obtained are satisfactory as per standard requirements.

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Quality Manager

End of Report

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2023-01-25-01**	**Date: 27-01-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	25-01-23	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Source of Sample	:	Talacauvery Layout	
Date of test	:	25-01-23	

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	9.5%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	10.1%	
Combined Flakiness and Elongation Index for WMM	19.6%	

* The results obtained are satisfactory as per standard requirements.

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Quality Manager

End of Report

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TEST RESULTS OF GRADATION FOR WMM

Lab ID : **CP-RW-2023-01-25-01** **Date: 27-01-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 25-01-23

Type of Mix : WMM (Wet Mix Macadam)

Source of Sample : GKVK Layout

Date of test : 25-01-23

Oven Dry Weight : 11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	325	325	3.0	97.0	95-100
22.4	3488	3813	34.7	65.3	60-80
11.2	2055	5868	53.3	46.7	40-60
4.75	2014	7882	71.7	28.3	25-40
2.36	1011	8893	80.8	19.2	15-30
0.6	645	9538	86.7	13.3	8-22
0.075	1021	10559	96.0	4.0	0-5

* The results obtained are satisfactory as per standard requirements.

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Page 1/1
End of Report

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID	:	**CP-RW-2023-01-25-01**	**Date: 27-01-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	25-01-23	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Source of Sample	:	GKVK Layout	
Date of test	:	25-01-23	

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	302.4	302.4
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	75.4	72.1
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	226.5	229.9
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.5	0.4
5	Aggregate impact value	(B/A)*100	24.9	23.8
6	Aggregate impact value (Mean of two tests)	Pecentage	24.4	

* The results obtained are satisfactory as per standard requirements.

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End of Report

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BBMP, Bangalore

DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2023-01-25-01**	**Date: 27-01-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	25-01-23	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Source of Sample	:	GKVK Layout	
Date of test	:	25-01-23	

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	11.9%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	12.5%	
Combined Flakiness and Elongation Index for WMM	24.4%	

* The results obtained are satisfactory as per standard requirements.

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4, 7TH MAIN MALLESWARAM, BANGALORE -3

TEST RESULTS OF GRADATION FOR WMM

Lab ID	:	**CP-RW-2023-01-28-01**	**Date: 30-01-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	28-01-23	
Type of Mix	:	WMM (Wet Mix Macadam)	
Source of Sample	:	Jai Rama & Muniswamy gowda layout	
Date of test	:	28-01-23	
Oven Dry Weight	:	11000 Grams	

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	318	318	2.9	97.1	95-100
22.4	3745	4063	36.9	63.1	60-80
11.2	2152	6215	56.5	43.5	40-60
4.75	1865	8080	73.5	26.5	25-40
2.36	1145	9225	83.9	16.1	15-30
0.6	788	10013	91.0	9.0	8-22
0.075	758	10771	97.9	2.1	0-5

* The results obtained are satisfactory as per standard requirements.

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | ENVIRONMENTAL
WATER TESTING | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES

TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID	:	**CP-RW-2023-01-28-01**	**Date: 30-01-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	28-01-23	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Source of Sample	:	Jai Rama & Muniswamy gowda layout	
Date of test	:	28-01-23	

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	301.7	301.7
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	72.5	73.8
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	228.6	227.3
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.6	0.6
5	Aggregate impact value	(B/A)*100	24.0	24.5
6	Aggregate impact value (Mean of two tests)	Pecentage	24.2	

* The results obtained are satisfactory as per standard requirements.

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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2023-01-28-01**	**Date: 30-01-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	28-01-23	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Source of Sample	:	Jai Rama & Muniswamy gowda layout	
Date of test	:	28-01-23	

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	12.4%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	12.7%	
Combined Flakiness and Elongation Index for WMM	25.1%	

* The results obtained are satisfactory as per standard requirements.

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End of Report

Assistant Executive Engineer
Kudigehalli Sub Division
BBMP, Bangalore

TEST RESULTS OF GRADATION FOR WMM

Lab ID : **CP-RW-2023-01-28-01** **Date: 30-01-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 28-01-23

Type of Mix : WMM (Wet Mix Macadam)

Source of Sample : Veerannapalya

Date of test : 28-01-23

Oven Dry Weight : 11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	302	302	2.7	97.3	95-100
22.4	3644	3946	35.9	64.1	60-80
11.2	2047	5993	54.5	45.5	40-60
4.75	1985	7978	72.5	27.5	25-40
2.36	1165	9143	83.1	16.9	15-30
0.6	769	9912	90.1	9.9	8-22
0.075	702	10614	96.5	3.5	0-5

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

Assistant Executive Engineer
Kadugodi Sub Division
BBMP, Bangalore

TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID	:	**CP-RW-2023-01-28-01**	**Date: 30-01-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	28-01-23	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Source of Sample	:	Veerannapalya	
Date of test	:	28-01-23	

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	303.5	303.5
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	78.5	75.6
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	224.8	227.5
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.2	0.4
5	Aggregate impact value	(B/A)*100	25.9	24.9
6	Aggregate impact value (Mean of two tests)	Pecentage	25.4	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

Assistant Executive Engineer
Kadugodi Sub Division
BBMP, Bangalore

DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2023-01-28-01**	**Date: 30-01-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	28-01-23	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Source of Sample	:	Veerannapalya	
Date of test	:	28-01-23	

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	10.9%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	13.5%	
Combined Flakiness and Elongation Index for WMM	24.4%	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Page 1/1
End of Report

Assistant Executive Engineer
Kadugodi Sub Division
BBMP, Bangalore

Format No: CP/TF/01

TEST REPORT ON BITUMEN

Lab ID : **CP-RW-2023-01-28-01** **Date: 30-01-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 28-01-23

Sample Type : Bitumen

Reference to BIS codes : IS: 1201-2021, IS: 1202-1220(1978) (Reaffirmed-2019)

Date of test : 28-01-23

Test Results

Sl.no	Name of Test	Result	Requirements as per IS:73-2013
1	Penetration at 25°C , in 1/10th mm	**61**	Min 45
2	Softening Point, °C	**50.8**	Min. 47°C
3	Ductility, cm	**100**	Min. 47 cm
4	Flash point, °C	**310**	Min. 220°C
	Fire point, °C	**322**	

* The results obtained are satisfactory as per standard requirements.

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TEST RESULTS OF GRADATION FOR DBM
(IS 2386:(Part 1) 1963 (RA2011)

Lab ID : **CP-RW-2023-01-28-01** **Date: 30-01-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 28-01-23

Type of Mix : DBM-Plant (Dense Bituminous Macadam)

Date of test : 28-01-23

Weight of Sample : 5000 Grams

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10 (grading -2)
37.5	0	0	0	100	100
26.5	250	250	5.00	95.00	90-100
19	350	600	12.00	88.00	71-95
13.2	450	1050	21.00	79.00	56-80
4.75	1750	2800	56.00	44.00	38-54
2.36	400	3200	64.00	36.00	28-42
0.3	1350	4550	91.00	9.00	7-21
0.075	250	4800	96.00	4.00	2-8
PAN	200	5000	0.00	0	0

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

Assistant Executive Engineer
Kumaraswamy Layout Sub Division
BBMP, Bangalore

PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR DENSE BITUMINOUS MACADAM

Lab ID : **CP-RW-2023-01-28-01** **Date: 31-01-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 28-01-23

Type of Mix : DBM (Dense Bituminous Macadam)

Date of test : 28-01-23

Table 500-6 : Physical Requirements fo Coarse Aggregate for Dense Bituminous Macadam

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	9.0	Combined Flakiness & Elongation Index for DBM is Maximum 35%	IS:2386 Part I
	Elongation Index	8.0		
Strength	Aggregate Impact Value	20.0	Maximum 30%	IS:2386 Part IV
Specific gravity	Specific gravity	2.58	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	0.38	Maximum 2%	IS:2386 Part III

* The results obtained are satisfactory as per standard requirements.

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R KARTHIK RECHAN
Authorized Signatory
Quallity Manager

Page 1/1
End of Report

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TESTS RESULTS ON STABILITY OF MIX

Lab ID : **CP-RW-2023-01-28-01** **Date: 31-01-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 28-01-23

Type of Mix : DBM (Dense Bituminous Mecadam)

Date of test : 28-01-23

The results of the tests conducted on the Dense Bituminous Macadam mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.29	11.82	9KN(Min)
2	Marshal flow at 60°C, mm	3.54	3.87	2-4
3	Percent air Voids	4.56	4.17	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.54	14.76	13-15
5	Percent Voids filled with Bitumen(VFB %)	68.98	70.28	65-75
6	Density, g/cc	2.42	2.40	–

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

Assistant Executive Engineer
Kodigehalli Sub Division
Bangalore

TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID : **CP-RW-2023-01-28-01** **Date: 31-01-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 28-01-23

Type of Mix : DBM(Dense Bitumnous Macadam)

Date of test : 28-01-23

Type of Binder : 60/70

% of Binder Used : 4.5%

Weight of Aggregate : 200.0 gm

Weight of Binder : 9 gm

Temperature of water bath : 40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	98.0	2.0	98.2	Minimum Retained Coating 95%
2	98.5	1.5		
3	98.0	2.0		

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

Assistant Executive Engineer
Yelahanka Sub Division
BBMP, Bangalore

TEST RESULTS OF GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2007)

Lab ID : **CP-RW-2023-02-01-01** **Date: 03-02-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 01-02-23

Type of Mix : BC-Plant (Bituminous Concrete)

Date of test : 01-02-23

Oven Dry Weight : 5000 Grams

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	89	89	1.8	98.2	90-100
9.5	702	791	15.8	84.2	70-88
4.75	895	1686	33.7	66.3	53-71
2.36	587	2273	45.5	54.5	42-58
1.18	492	2765	55.3	44.7	34-48
0.6	503	3268	65.4	34.6	26-38
0.3	528	3796	75.9	24.1	18-28
0.15	458	4254	85.1	14.9	12-20
0.075	350	4604	92.1	7.9	4-10
PAN	396	5000	100	0.0	0

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID	:	**CP-RW-2023-02-01-01**	**Date: 04-02-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	01-02-23	
Type of Mix	:	BC(Bitumenous Concrete)	
Date of test	:	01-02-23	

Type of Binder	:	60/70
% of Binder Used	:	5.4%
Weight of Aggregate	:	200.0 gm
Weight of Binder	:	10.8 gm
Temperature of water bath	:	40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	98.5	1.5	98.3	Minimum Retained Coating 95%
2	98.5	1.5		
3	98.0	2.0		

* The results obtained are satisfactory as per standard requirements.

FOR CIVIL Pro.

CIVIL Pro Sig..... Date..... BANGALORE

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Page 1/1
****End of Report****

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR BITUMINOUS CONCRETE

Lab ID : CP-RW-2023-02-01-01 **Date: 04-02-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 01-02-23

Type of Mix : BC (Bituminous Concrete)

Date of test : 01-02-23

Table 500-16 : Physical Requirements fo Coarse Aggregate for Bituminous Concrete

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	12.4	Combined Flakiness & Elongation Index for BC is Maximum 35%	IS:2386 Part I
	Elongation Index	11.8		
Strength	Aggregate Impact Value	22.1	Maximum 24%	IS:2386 Part IV
Specific gravity	Specific gravity	2.68	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	0.21	Maximum 2%	IS:2386 Part III

* The results obtained are satisfactory as per standard requirements.

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R KARTHIK RECHAN
Authorized Signatory
Quallity Manager

End of Report

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TESTS RESULTS ON STABILITY OF MIX

Lab ID : **CP-RW-2023-02-01-01** **Date: 04-02-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 01-02-23

Type of Mix : BC (Bituminous Concrete)

Date of test : 01-02-23

The results of the tests conducted on the Bituminous Concrete mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.14	11.13	10KN(min)
2	Marshal flow at 60°C, mm	3.52	3.51	2-4
3	Percent air Voids	4.82	4.83	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.28	14.26	13-15
5	Percent Voids filled with Bitumen(VFB %)	71.87	71.63	65-75
6	Density, g/cc	2.25	2.26	–

* The results obtained are satisfactory as per standard requirements.

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR DBM
(IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	**CP-RW-2023-02-01-01**	**Date: 02-02-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	01-02-23	
Type of Mix	:	DBM (Dense Bituminous Macadam)	
Source of Sample	:	Talacauvery layout 1st main Road	
Date of test	:	01-02-23	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	479	479.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1}$ X 100	4.6	4.50
7	Average percentage	%	4.55	

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FOR CIVIL Pro.
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Assistant Executive Engineer
Rajagopal Sub Division
BBMP, Bangalore

Lab ID : CP-RW-2023-02-01-01 **Date: 02-02-23**

AFTER EXTRACTION(Trail-1)

Weight of Sample(gm) : 479

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	14	14.4	3.01	97.0	90-100
19	24	38.4	8.02	92.0	71-95
13.2	120	158.4	33.07	66.9	56-80
4.75	96	254.4	53.11	46.9	38-54
2.36	80	334.4	69.81	30.2	28-42
0.3	62	396.8	82.84	17.2	7-21
0.075	53	449.6	93.86	6.1	2-8

AFTER EXTRACTION(Trail-2)

Weight of Sample(gm) : 479.5

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	15	14.8	3.09	96.9	90-100
19	24	38.8	8.09	91.9	71-95
13.2	120	158.8	33.12	66.9	56-80
4.75	96	254.8	53.14	46.9	38-54
2.36	78	332.8	69.41	30.6	28-42
0.3	62	395.2	82.42	17.6	7-21
0.075	53	448	93.43	6.6	2-8

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

Assistant Executive Engineer
Kathriguppe Sub Division
BBMP, Bangalore

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR DBM (IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	**CP-RW-2023-02-02-01**	**Date: 03-02-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	02-02-23	
Type of Mix	:	DBM (Dense Bituminous Macadam)	
Source of Sample	:	Muniswamy gowda layout- 1st Main Road	
Date of test	:	02-02-23	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	479.5	479.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	4.50	4.50
7	Average percentage	%	4.50	

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

Lab ID : CP-RW-2023-02-02-01 **Date: 03-02-23**

AFTER EXTRACTION(Trail-1)

Weight of Sample(gm) : 479.5

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specification Limits as per MORTH
37.5	0	0	0	100.0	100
26.5	32	32	6.67	93.3	90-100
19	46	78	16.27	83.7	71-95
13.2	116	194	40.46	59.5	56-80
4.75	76	270	56.31	43.7	38-54
2.36	38	308	64.23	35.8	28-42
0.3	76	384	80.08	19.9	7-21
0.075	59	443	92.39	7.6	2-8

AFTER EXTRACTION(Trail-2)

Weight of Sample(gm) : 479.5

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specification Limits as per MORTH specification
37.5	0	0	0	100.0	100
26.5	26	26	5.42	94.6	90-100
19	32	58	12.10	87.9	71-95
13.2	145	203	42.34	57.7	56-80
4.75	78	281	58.60	41.4	38-54
2.36	32	313	65.28	34.7	28-42
0.3	69	382	79.67	20.3	7-21
0.075	71	453	94.47	5.5	2-8

* The results obtained are satisfactory as per standard requirements.

FOR CIVIL Pro.

CIVIL Pro Sig..... Date..... BANGALORE

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR DBM (IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	**CP-RW-2023-02-02-01**	**Date: 03-02-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	02-02-23	
Type of Mix	:	DBM (Dense Bituminous Macadam)	
Source of Sample	:	GKVK layout - Main Road	
Date of test	:	02-02-23	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	478.5	479.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	4.70	4.50
7	Average percentage	%	4.60	

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FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Assistant Executive Engineer
Rajarajeshwari Sub Division
BBMP, Bangalore

Lab ID : CP-RW-2023-02-02-01 **Date: 03-02-23**

AFTER EXTRACTION(Trail-1)

Weight of Sample(gm) : 478.5

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specification Limits as per MORTH
37.5	0	0	0	100.0	100
26.5	33	33	6.90	93.1	90-100
19	45	78	16.30	83.7	71-95
13.2	112	190	39.71	60.3	56-80
4.75	79	269	56.22	43.8	38-54
2.36	40	309	64.58	35.4	28-42
0.3	73	382	79.83	20.2	7-21
0.075	63	445	93.00	7.0	2-8

AFTER EXTRACTION(Trail-2)

Weight of Sample(gm) : 479.5

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specification Limits as per MORTH specification
37.5	0	0	0	100.0	100
26.5	28	28	5.84	94.2	90-100
19	34	62	12.93	87.1	71-95
13.2	148	210	43.80	56.2	56-80
4.75	80	290	60.48	39.5	38-54
2.36	35	325	67.78	32.2	28-42
0.3	70	395	82.38	17.6	7-21
0.075	66	461	96.14	3.9	2-8

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

Assistant Executive Engineer Kadugodi Sub Division BBMP, Bangalore

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR DBM
(IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	**CP-RW-2023-02-03-01**	**Date: 04-02-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	03-02-23	
Type of Mix	:	DBM (Dense Bituminous Macadam)	
Source of Sample	:	Veerannapalya - 6th A & 6th Cross Road	
Date of test	:	03-02-23	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	479.5	479
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	4.50	4.60
7	Average percentage	%	4.55	

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Assistant Executive Engineer
Yelahanka Sub Division
BBMP, Bangalore

Lab ID : CP-RW-2023-02-03-01 **Date: 04-02-23**

AFTER EXTRACTION(Trail-1)

Weight of Sample(gm) : 479.5

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specification Limits as per MORTH
37.5	0	0	0	100.0	100
26.5	36	36	7.51	92.5	90-100
19	40	76	15.85	84.2	71-95
13.2	108	184	38.37	61.6	56-80
4.75	77	261	54.43	45.6	38-54
2.36	42	303	63.19	36.8	28-42
0.3	80	383	79.87	20.1	7-21
0.075	60	443	92.39	7.6	2-8

AFTER EXTRACTION(Trail-2)

Weight of Sample(gm) : 479

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specification Limits as per MORTH specification
37.5	0	0	0	100.0	100
26.5	30	30	6.26	93.7	90-100
19	36	66	13.78	86.2	71-95
13.2	130	196	40.92	59.1	56-80
4.75	82	278	58.04	42.0	38-54
2.36	37	315	65.76	34.2	28-42
0.3	73	388	81.00	19.0	7-21
0.075	63	451	94.15	5.8	2-8

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

Assistant Executive Engineer
Kodigehalli Sub Division
BCC, Bangalore

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : CP-RW-2023-02-06-01 **Date: 07-02-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 06-02-23

Type of Mix : BC (Bituminous Concrete)

Source of Sample : Talacauvery layout 1st main Road

Date of test : 06-02-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474	474.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1}$ X 100	5.60	5.50
7	Average percentage	%	5.55	

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Asst Executive Engineer
Kasturinagar Sub Division
BBMP, Bangalore

Lab ID : CP-RW-2023-02-06-01 **Date: 07-02-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	32	32	6.8	93.2	90-100
9.5	45	77	16.2	83.8	70-88
4.75	123	200	42.2	57.8	53-71
2.36	62	262	55.3	44.7	42-58
1.18	38	300	63.3	36.7	34-48
0.6	22	322	67.9	32.1	26-38
0.3	48	370	78.1	21.9	18-28
0.15	38	408	86.1	13.9	12-20
0.075	28	436	92.0	8.0	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	36	36	7.6	92.4	90-100
9.5	49	85	17.9	82.1	70-88
4.75	96	181	38.1	61.9	53-71
2.36	69	250	52.7	47.3	42-58
1.18	53	303	63.9	36.1	34-48
0.6	25	328	69.1	30.9	26-38
0.3	49	377	79.5	20.5	18-28
0.15	20	397	83.7	16.3	12-20
0.075	40	437	92.1	7.9	4-10

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

Executive Engineer Kodigehalli Sub Division

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-RW-2023-02-06-01** **Date: 07-02-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 06-02-23

Type of Mix : Tack coat

Date of test : 06-02-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.256	0.256
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : CP-RW-2023-02-07-01 **Date: 08-02-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 07-02-23

Type of Mix : BC (Bituminous Concrete)

Source of Sample : 2nd A Cross Road- Talacauvery Layout

Date of test : 07-02-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	475	474.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.40	5.50
7	Average percentage	%	5.45	

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Assistant Executive Engineer
Kadugodi Sub Division
BBMP, Bangalore

Lab ID : CP-RW-2023-02-07-01 **Date: 08-02-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	12	12	2.5	97.5	90-100
9.5	52	64	13.5	86.5	70-88
4.75	141	205	43.2	56.8	53-71
2.36	46	251	52.8	47.2	42-58
1.18	39	290	61.1	38.9	34-48
0.6	15	305	64.2	35.8	26-38
0.3	46	351	73.9	26.1	18-28
0.15	45	396	83.4	16.6	12-20
0.075	39	435	91.6	8.4	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	4	4	0.8	99.2	90-100
9.5	62	66	13.9	86.1	70-88
4.75	112	178	37.5	62.5	53-71
2.36	88	266	56.1	43.9	42-58
1.18	29	295	62.2	37.8	34-48
0.6	11	306	64.5	35.5	26-38
0.3	46	352	74.2	25.8	18-28
0.15	45	397	83.7	16.3	12-20
0.075	35	432	91.0	9.0	4-10

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-RW-2023-02-07-01** **Date: 08-02-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 07-02-23

Type of Mix : Tack coat

Date of test : 07-02-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.77
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.022
6	Rate of spread of tack coat	Kg/sq.m	0.256	0.244
7	Average	Kg/sq.m	0.250	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID	:	CP-RW-2023-02-09-01	**Date: 10-02-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	09-02-23	
Type of Mix	:	BC (Bituminous Concrete)	
Source of Sample	:	2nd Cross Road - Talacauvery Layout	
Date of test	:	09-02-23	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474	475
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.60	5.40
7	Average percentage	%	5.50	

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

Lab ID : CP-RW-2023-02-09-01 **Date: 10-02-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	12	12	2.5	97.5	90-100
9.5	52	64	13.5	86.5	70-88
4.75	141	205	43.2	56.8	53-71
2.36	46	251	53.0	47.0	42-58
1.18	39	290	61.2	38.8	34-48
0.6	15	305	64.3	35.7	26-38
0.3	46	351	74.1	25.9	18-28
0.15	45	396	83.5	16.5	12-20
0.075	39	435	91.8	8.2	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	4	4	0.8	99.2	90-100
9.5	62	66	13.9	86.1	70-88
4.75	112	178	37.5	62.5	53-71
2.36	88	266	56.0	44.0	42-58
1.18	29	295	62.1	37.9	34-48
0.6	11	306	64.4	35.6	26-38
0.3	46	352	74.1	25.9	18-28
0.15	45	397	83.6	16.4	12-20
0.075	35	432	90.9	9.1	4-10

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-RW-2023-02-09-01** **Date: 10-02-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 09-02-23

Type of Mix : Tack coat

Date of test : 09-02-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.801	0.768
5	Weight of tack Coat (d=c-b)	Kg	0.021	0.02
6	Rate of spread of tack coat	Kg/sq.m	0.233	0.222
7	Average	Kg/sq.m	0.228	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : **CP-RW-2023-02-14-01** **Date: 15-02-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 14-02-23

Type of Mix : BC (Bituminous Concrete)

Source of Sample : 1st A Cross Road - Talacauvery Layout

Date of test : 14-02-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474.5	473.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.50	5.70
7	Average percentage	%	5.60	

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

Lab ID : **CP-RW-2023-02-14-01** **Date: 15-02-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	21	21	4.4	95.6	90-100
9.5	47	68	14.3	85.7	70-88
4.75	139	207	43.6	56.4	53-71
2.36	41	248	52.3	47.7	42-58
1.18	34	282	59.4	40.6	34-48
0.6	20	302	63.6	36.4	26-38
0.3	41	343	72.3	27.7	18-28
0.15	40	383	80.7	19.3	12-20
0.075	53	436	91.9	8.1	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 473.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	10	10	2.1	97.9	90-100
9.5	69	79	16.7	83.3	70-88
4.75	116	195	41.2	58.8	53-71
2.36	60	255	53.9	46.1	42-58
1.18	35	290	61.2	38.8	34-48
0.6	16	306	64.6	35.4	26-38
0.3	42	348	73.5	26.5	18-28
0.15	43	391	82.6	17.4	12-20
0.075	45	436	92.1	7.9	4-10

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-RW-2023-02-14-01** **Date: 15-02-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 14-02-23

Type of Mix : Tack coat

Date of test : 14-02-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.804	0.768
5	Weight of tack Coat (d=c-b)	Kg	0.024	0.02
6	Rate of spread of tack coat	Kg/sq.m	0.267	0.222
7	Average	Kg/sq.m	0.244	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : **CP-RW-2023-03-18-01** **Date: 20-03-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 18-03-23

Type of Mix : BC (Bituminous Concrete)

Source of Sample : 1st main Road Talacauvery layout

Date of test : 18-03-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474	475
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.60	5.40
7	Average percentage	%	5.50	

FOR CIVIL Pro.

CIVIL Pro Sig..... Date..... BANGALORE

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

Lab ID : **CP-RW-2023-03-18-01** **Date: 20-03-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	26	26	5.5	94.5	90-100
9.5	57	83	17.5	82.5	70-88
4.75	125	208	43.9	56.1	53-71
2.36	46	254	53.6	46.4	42-58
1.18	43	297	62.7	37.3	34-48
0.6	33	330	69.6	30.4	26-38
0.3	40	370	78.1	21.9	18-28
0.15	31	401	84.6	15.4	12-20
0.075	38	439	92.6	7.4	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	30	30	6.3	93.7	90-100
9.5	70	100	21.1	78.9	70-88
4.75	116	216	45.5	54.5	53-71
2.36	50	266	56.0	44.0	42-58
1.18	39	305	64.2	35.8	34-48
0.6	32	337	70.9	29.1	26-38
0.3	40	377	79.4	20.6	18-28
0.15	33	410	86.3	13.7	12-20
0.075	34	444	93.5	6.5	4-10

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-RW-2023-03-18-01** **Date: 20-03-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 18-03-23

Type of Mix : Tack coat

Date of test : 18-03-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.804	0.77
5	Weight of tack Coat (d=c-b)	Kg	0.024	0.022
6	Rate of spread of tack coat	Kg/sq.m	0.267	0.244
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : CP-RW-2023-03-20-01 **Date: 21-03-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 20-03-23

Type of Mix : BC (Bituminous Concrete)

Source of Sample : 1st main muniswamy gowda layout

Date of test : 20-03-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	475	474.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.40	5.50
7	Average percentage	%	5.45	

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R.KARTHIK RECHAN
Authorized Signatory
Quality Manager

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

Lab ID : **CP-RW-2023-03-20-01** **Date: 21-03-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	23	23	4.8	95.2	90-100
9.5	59	82	17.3	82.7	70-88
4.75	121	203	42.7	57.3	53-71
2.36	50	253	53.3	46.7	42-58
1.18	49	302	63.6	36.4	34-48
0.6	34	336	70.7	29.3	26-38
0.3	44	380	80.0	20.0	18-28
0.15	29	409	86.1	13.9	12-20
0.075	40	449	94.5	5.5	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	33	33	7.0	93.0	90-100
9.5	74	107	22.6	77.4	70-88
4.75	110	217	45.7	54.3	53-71
2.36	50	267	56.3	43.7	42-58
1.18	40	307	64.7	35.3	34-48
0.6	38	345	72.7	27.3	26-38
0.3	37	382	80.5	19.5	18-28
0.15	30	412	86.8	13.2	12-20
0.075	30	442	93.2	6.8	4-10

* The results obtained are satisfactory as per standard requirements.

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R KARTHIK RECHAN
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Quality Manager

End of Report

Assistant Executive Engineer
Kodigehalli Sub Division
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DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-RW-2023-03-20-01** **Date: 21-03-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 20-03-23

Type of Mix : Tack coat

Date of test : 20-03-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.804	0.77
5	Weight of tack Coat (d=c-b)	Kg	0.024	0.022
6	Rate of spread of tack coat	Kg/sq.m	0.267	0.244
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

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R KARTHIK RECHAN
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Quality Manager

End of Report

Assistant Executive Engineer
Kadugodi Sub Division
BBMP, Bangalore

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : **CP-RW-2023-03-29-01** **Date: 30-03-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 29-03-23

Type of Mix : BC (Bituminous Concrete)

Source of Sample : 3rd cross chiranjeevi layout

Date of test : 29-03-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	473.5	474
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1}$ X 100	5.70	5.60
7	Average percentage	%	5.65	

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R.KARTHIK RECHAN
Authorized Signatory
Quality Manager

Page 1/2

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

Lab ID : **CP-RW-2023-03-29-01** **Date: 30-03-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 473.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	28	28	5.9	94.1	90-100
9.5	55	83	17.5	82.5	70-88
4.75	124	207	43.7	56.3	53-71
2.36	53	260	54.9	45.1	42-58
1.18	41	301	63.6	36.4	34-48
0.6	37	338	71.4	28.6	26-38
0.3	35	373	78.8	21.2	18-28
0.15	30	403	85.1	14.9	12-20
0.075	46	449	94.8	5.2	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	33	33	7.0	93.0	90-100
9.5	73	106	22.4	77.6	70-88
4.75	105	211	44.5	55.5	53-71
2.36	46	257	54.2	45.8	42-58
1.18	43	300	63.3	36.7	34-48
0.6	41	341	71.9	28.1	26-38
0.3	39	380	80.2	19.8	18-28
0.15	24	404	85.2	14.8	12-20
0.075	34	438	92.4	7.6	4-10

* The results obtained are satisfactory as per standard requirements.

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-RW-2023-03-29-01** **Date: 30-03-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 29-03-23

Type of Mix : Tack coat

Date of test : 29-03-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.802	0.769
5	Weight of tack Coat (d=c-b)	Kg	0.022	0.021
6	Rate of spread of tack coat	Kg/sq.m	0.244	0.233
7	Average	Kg/sq.m	0.239	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

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End of Report

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BBMP, Bangalore

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : **CP-RW-2023-03-29-01** **Date: 22-11-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 20-11-23

Type of Mix : BC (Bituminous Concrete)

Source of Sample : 9th A Cross Road- Sahakar Nagara

Date of test : 20-11-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	475	474
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.40	5.60
7	Average percentage	%	5.50	

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BBMP, Bangalore

Lab ID : **CP-RW-2023-03-29-01** **Date: 22-11-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	28	28	5.9	94.1	90-100
9.5	52	80	16.8	83.2	70-88
4.75	124	204	42.9	57.1	53-71
2.36	53	257	54.1	45.9	42-58
1.18	43	300	63.2	36.8	34-48
0.6	38	338	71.2	28.8	26-38
0.3	35	373	78.5	21.5	18-28
0.15	36	409	86.1	13.9	12-20
0.075	40	449	94.5	5.5	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	33	33	7.0	93.0	90-100
9.5	72	105	22.2	77.8	70-88
4.75	105	210	44.3	55.7	53-71
2.36	40	250	52.7	47.3	42-58
1.18	43	293	61.8	38.2	34-48
0.6	46	339	71.5	28.5	26-38
0.3	38	377	79.5	20.5	18-28
0.15	27	404	85.2	14.8	12-20
0.075	42	446	94.1	5.9	4-10

* The results obtained are satisfactory as per standard requirements.

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End of Report

Assistant Executive Engineer
Kadugodi Sub Division
BBMP, Bangalore

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-RW-2023-11-20-01** **Date: 21-11-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 20-11-23

Type of Mix : Tack coat

Date of test : 20-11-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.256	0.256
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

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